

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF OKLAHOMA

UNITED STATES OF AMERICA,)
Plaintiff,)
vs.)
ANDREW HAIR,)
Defendant.)
Case No. 10-CR-125-JHP

**COMBINED REPORT AND RECOMMENDATION REGARDING EXPERT
WITNESSES AND ORDER AND OPINION ON CERTAIN MOTIONS IN LIMINE**

Before the undersigned United States Magistrate Judge for a report and recommendation is defendant's Motion for [*Daubert*] Hearing.¹ (Dkt. # 46). Before the undersigned for decision are defendant's Third Motion in Limine to Preclude Misidentification of Evidence as a "Sperm Cell Fraction" (dkt. # 43) and defendant's Motion to Exclude DNA Evidence² (dkt. # 44). The government filed response briefs, and the Court conducted a hearing on January 24, 2011.³

During the January 24 hearing, defendant called two of its expert witnesses, Kelly Taulbee and Joseph L. Orcutt.⁴ The government intends to offer Ms. Taulbee at trial to testify as an expert witness in the field of serology and to testify regarding her work in this case. Ms. Taulbee is a serologist with the Oklahoma State Bureau of Investigations (OSBI) and has the title Criminalist III. She has been employed as a serologist for approximately nine and one-half

¹ Dkt. # 46 is defendant's Motion for [*Daubert*] Hearing. The undersigned granted Dkt. # 46. This Report and Recommendation addresses the outcome of the hearing.

² At the close of the hearing, defendant moved to convert his Motion to Suppress into a Motion in Limine, since his objection is not to the manner in which the evidence was gathered or the manner in which it will be presented but is merely to its evidentiary relevance and claimed unfair prejudice.

³ Government Exhibits 1 through 12 were admitted for purposes of the hearing only without objection. Defendant Exhibit 1 was admitted under the same condition.

⁴ The OSBI laboratory, where both Ms. Taulbee and Mr. Orcutt are employed is accredited in the disciplines of “controlled substances and biology.” Government Ex. 11.

years. Ms. Taulbee has a Bachelor of Science Degree in Biology from Northeastern State University in Talequah, Oklahoma. She has performed serology analysis/testing for semen over 1,000 times and has been qualified as an expert in serology nine times (all in Oklahoma State District Courts). Here, Ms. Taulbee was provided a pair of black shorts belonging to defendant and a bathing suit top belonging to the complaining party. She marked certain stains she was able to identify on the black shorts and swabbed (with two swabs) the inside of the cups of the bathing suit top. Ms. Taulbee then performed certain serology tests on cuttings obtained from the stained area of the black shorts.

Mr. Orcutt is a DNA Analyst with the OSBI, a position he has held for more than four years. Mr. Orcutt's title is Criminalist in Forensic Biology. Mr. Orcutt has a Bachelor of Science Degree in Biology from Northwestern Oklahoma State University in Alva, Oklahoma and a Masters of Science in Forensic Genetics from the University of North Texas Health Science Center in Ft. Worth, Texas. Mr. Orcutt has conducted DNA testing over 1,000 times and has been certified as an expert in DNA analysis fourteen times (all in Oklahoma State District Courts). The government intends to offer Mr. Orcutt at trial to testify as an expert witness in the field of DNA testing and to testify regarding the DNA testing that he performed on a sample (a cutting) taken from the stained area of the black shorts and on one of the swabs taken from the bathing suit top. These two samples were labeled 4C14-S (the black shorts) and 4E1 (the bathing suit top).

Expert Qualification of Ms. Taulbee and Mr. Orcutt

The first issue is whether or not Ms. Taulbee and Mr. Orcutt are qualified to testify as experts in this case in light of the fact that the DNA evidence is derived from mixed DNA samples. A mixed DNA sample is a sample that contains the DNA of more than one person.

Although Ms. Taulbee does not perform DNA analysis, she was the first person at the OSBI laboratory to analyze the black shorts and the bathing suit top, she marked the “stains” on the black shorts from which the tested material was taken, she determined that a cutting from the stain on the black shorts contained a protein called P30 (which is indicative, but not determinative, of seminal fluid), and she prepared the swabs taken from the bathing suit top, which were used in the DNA testing. Mr. Orcutt performed DNA testing on 4C14-S and 4E1, determined that both samples were “mixed samples,” and determined that defendant’s DNA could not be excluded from either. He also provided statistical data related to the occurrence of the same DNA as that found in 4C14-S and 4E1 in three population groups, Caucasian, African American, and Hispanic.

Both Ms. Taulbee and Mr. Orcutt testified that the lab areas where they work were cleaned before and after each sample was tested and that precautions against contamination, including cross contamination, were taken. Both also described their testing methods in detail and testified that they each followed the OSBI protocols.⁵ As to the mixed sample DNA testing, Mr. Orcutt testified that DNA testing is the same, whether it is performed on a “mixed” sample or a sample that is not mixed. Mr. Orcutt explained that the result of DNA testing is the identification of “alleles,” which may then be matched to a person’s DNA (in this case the defendant and the complaining party). During this matching process, if the DNA analyst finds specific alleles that are present in numbers larger than those present in the DNA that is being matched, then the analyst concludes that there must be DNA present belonging to a third party, and the sample is considered mixed. However, the testing procedure itself is not altered or

⁵ A subsequent review of Ms. Taulbee’s and Mr. Orcutt’s testing procedure found no deviation from OSBI protocols. Government Exs. 3 and 10.

affected. Thus, the presence of a “mixed DNA sample” is a conclusion and not an “input” that requires a different type of DNA testing or a specialized expertise.

At the conclusion of the hearing, defendant withdrew his objection to both Ms. Taulbee’s and Mr. Orcutt’s qualifications to testify as experts in this matter. In addition, the undersigned independently concludes that under Fed. R. Evid. 702, Ms. Taulbee is qualified to testify both as an expert in the field of serology and regarding the testing she performed in this case. Likewise, the Court concludes that under Fed. R. Evid. 702, Mr. Orcutt is qualified to testify as an expert in the field of DNA testing (whether or not mixed sample), including the testing performed in this case. Thus, the undersigned RECOMMENDS that both Mr. Taulbee and Mr. Orcutt be recognized as experts at trial without any additional qualification or voir dire.

Nomenclature Utilized by the Government’s Witnesses

The second issue is addressed by defendant’s Third Motion in Limine, in which defendant seeks an order from the Court prohibiting the government from eliciting testimony or using nomenclature that would lead a jury to believe that sperm was found in sample 4C14-S. Ms. Taulbee testified that she performed two tests on the 4C14-S sample, one for sperm cells and the other for the P30 protein. Her tests found no sperm cells but did indicate the presence of the P30 protein, which is indicative, but not conclusive, of the presence of seminal fluid. P30 is found in males and in females, but at much lower levels in females, although the test performed by Ms. Taulbee did not measure “levels” of P30, only the presence or absence of it. Defendant objects to the use of the letter “S” at the end of the 4C14-S label or to the use of the words “spermatozoa,” “sperm cell fraction,” or “sperm,” because the letter is used to indicate testing for spermatozoa, or sperm cells, and none were found in the sample. Ms. Taulbee’s testimony was clear, both on direct and cross examination, that she was testing for both the presence of sperm

cells (seminal fluid) and the P30 protein and that she only found the P30 protein. The Court sees no danger that a jury will assume that sperm cells or spermatozoa were actually found when they were not, particularly since Ms. Taulbee's testimony was very clear on this point and left no room for ambiguity. Thus, defendant's Third Motion in Limine is DENIED.⁶

Defendant's Motion in Limine, Converted from a Motion to Suppress

Defendant requests that the government be barred from eliciting testimony or evidence regarding the "match conclusions" or "population statistics" for the two DNA samples at issue. Specifically, Mr. Orcutt testified that the probability of randomly selecting an individual from the population who could be a contributor to the DNA sample 4C14-S is approximately 1 in 301,000 in Caucasians, 1 in 377,00 in African Americans, and 1 in 79,700 in Hispanics. As to the DNA sample 4E-1, Mr. Orcutt testified that the odds were 1 in 93 in Caucasians, 1 in 145 in African Americans; and 1 in 44 in Hispanics. Defendant's argument is two-fold: (1) that this sort of statistical evidence is not generally admissible, and (2) that the evidence is unfairly prejudicial and not relevant because defendant is 100% Native American.

As to the first issue, defendant cites Turner v. State, 924 So.2d 737 (Ala. Crim. App. 2002) for the proposition that statistical data in mixed sample DNA cases is not reliable and should not be admitted. In Turner, unlike here, the defendant argued that it was error not to include statistical information in connection with mixed sample DNA evidence. Id. at 762-63. In disagreeing, the court merely pointed out that both experts testified that statistical data was not generally calculated on mixed samples. Id. at 764-65. The court did not opine that such statistical data was or was not reliable or generally inadmissible in mixed sample cases. Moreover, the court in Turner cited to a Mississippi Supreme Court decision, Watts v. State, 733

⁶ This ruling is preliminary only and may be revisited by the District Court at any time.

So.2d 214 (Miss. 1999). In Watts, the court found that it was proper to admit statistical data on mixed DNA samples, but that the trial court was not required to do so. Id. The court noted that the reliability of such data might be questionable but concluded that the issue was one of credibility: “[g]iven that the population statistics, or lack thereof, like evidence of laboratory error rates, go to the credibility of the DNA matching evidence, it cannot be said that the circuit court improperly refused to strike the evidence of the DNA samples found in his undershorts.” Id. Thus, in both of these cases, evidence of statistical data was admitted when the DNA evidence was derived from a mixed sample.

More importantly, federal courts have consistently allowed the introduction of statistical evidence based on mixed sample DNA testing. These courts generally find that challenges to the use of statistical evidence for mixed DNA samples “are directed to the weight of the evidence and not its admissibility.” U.S. v. Trala, 162 F.Supp.2d 336, 349 (D.Del. 2001). See also U.S. v. Morrow, 374 F.Supp.2d 51, 54, 68-69 (“even [mixed sample] DNA evidence with relatively low statistical significance may be admitted as probative evidence, provided that certain safeguards are afforded.”); Grundy v. Dailey, 2007 WL 1200141 (W.D.Ky. 2007) (unpublished decision noting court’s inability to find “information to suggest that the statistical significance of mixed samples . . . cannot be reliably quantified” and finding petitioner’s challenge an issue of credibility, not admissibility); U.S. v. Gaines, 979 F.Supp. 1429, 1439 (S.D.Fla. 1997) (“The expert testimony establishes that the above methods have been generally accepted within the scientific community for the purpose of identifying mixtures of DNA, also referred to as mixed samples. The 1996 NRC Report also recognizes the detection of alleles in mixed samples, and provides guidelines for the statistical analysis of such samples.”); Rocafort v. Curtin, 2009 WL 2923726 *5 (noting prior decision that it was error not to introduce a “statistical analysis giving

meaning to the fact of the potential DNA match, i.e., to what extent was it likely that defendant represented an individual who contributed to the mixed sample.”) (unpublished). Here, where there is no objection to the qualifications of the government’s expert witnesses (an objection that in this case would be futile), the body of case law is clear that any challenge to the government’s statistical data is directed to the issue of credibility and not admissibility. Thus, the Court rejects defendant’s first argument.

As to the second argument, although statistical evidence regarding Native Americans might be relevant in this case, the absence of such evidence does not render the statistical data presented unfairly prejudicial. The Eastern District of California, in an unpublished opinion, recently considered a similar issue in a *habeas* proceeding:

This murder case presents a narrow, but important, question regarding the admissibility of deoxyribonucleic acid (DNA) evidence to prove identity in criminal prosecutions. A DNA comparison of blood found at the crime scene with defendant’s blood resulted in a match. That is, defendant’s genetic profile matched that of the blood at the crime scene so that he could not be excluded as a donor of that blood. Similarly, a DNA comparison of blood found on defendant’s pants when he was arrested with the victim’s blood resulted in a match, so that the victim could not be excluded as a donor of that blood. Obviously, evidence tending to show that defendant’s blood was found at the crime scene, and that the victim’s blood was on the defendant’s pants, would be highly probative to whether defendant was the killer.

When a match is found, the next question is the statistical significance of the match. Of course, a match is less significant if the blood could have come from many persons rather than from only a few. Experts calculate the odds or percentages-usually stated as one in some number-that a random person from the relevant population would have a similar match. The question here revolves around exactly what is the relevant population. The question is complicated by the fact that the odds vary with different racial and ethnic groups. Because of this variation, separate databases are maintained for different population groups, and the odds for each group are calculated separately. In this case, as in many cases, no evidence exists of the racial or ethnic identity of the perpetrator other than evidence indicating that defendant was the perpetrator. Over defense objection, the trial court permitted the prosecution to present evidence of the odds as to the three most common population groups in this country-Caucasians, African-Americans, and Hispanics. For example, the evidence showed that only one

Caucasian in 96 billion would match the crime scene blood that matched defendant's profile.

Defendant contends the court erred. Relying heavily on the opinions in People v. Pizarro (1992) 10 Cal.App.4th 57, 12 Cal.Rptr.2d 436 (Pizarro I), and especially, People v. Pizarro (2003) 110 Cal.App.4th 530, 3 Cal.Rptr.3d 21 (Pizarro I), he argues that evidence regarding any particular population group is irrelevant absent independent evidence that the perpetrator was a member of that group. The Court of Appeal concluded that the trial court correctly admitted the evidence. We agree. As Justice Parrilli author of the majority opinion below, states, "When the perpetrator's race is unknown, the frequencies with which the matched profile occurs in various racial groups to which the perpetrator might belong are relevant for the purpose of ascertaining the rarity of the profile."

Respondent argues that there was no constitutional error and, even if there was, any error was harmless.

In analyzing the issue presented in this case, the California Supreme Court began by identifying what the trial court's [sic] should not do:

In part, the Pizarro opinions condemned presenting evidence solely of the odds that a person of the defendant's population group was the donor. (citations omitted). On this point, the court was on solid ground. As one recent commentator has explained, "One strangely persistent fallacy in the interpretation of DNA evidence is that the relevant ethnic or racial population in which to estimate a DNA profile frequency necessarily is that of the defendant. The issue has been cogently analyzed, and it should be clear that the relevant population is the entire class of possible perpetrators." (citation omitted). Accordingly, we agree with the Pizarro opinions that a trial court should not admit evidence of the odds solely regarding the defendant's population group. Similarly, when the match involves the victim, the court should not admit evidence of the odds solely regarding the victim's population group.

The state court then observed that this case did not present this problem because the criminalist "testified that she followed standard practice of determining the frequency of the matched profiles using Caucasian, Hispanic, and African-American databases, in order to avoid making assumptions about the ethnic background of the perpetrator or the victim." The California Supreme Court concluded that the population group statistical evidence presented in this case was relevant, holding: "It is relevant for the jury to know that most persons of at least major portions of the general population could not have left the evidence samples." The Court added: If a defendant wanted to argue that the perpetrator might have been a member of a population group for which the odds were more favorable to the defense, surely it would be relevant and permissible to admit

evidence of those odds. Similarly, the prosecution should be permitted to present evidence of a representative range of groups.

The state court then turned to petitioner's more specific argument that "the evidence here was still improperly admitted because the expert gave the frequency range for only the three most common population groups, rather than all possible groups to which the perpetrator could belong." The Court concluded: Although giving results for all possible population groups would be permissible, doing so is not required to give relevance to the range of possibilities. Furthermore, it is not clear whether it is realistically feasible to include all population groups.... In this case, Criminalist Shea provided information regarding the three most numerous population groups. This made her testimony relevant and admissible.

Of course, defendant was entitled to cross-examine the witness regarding other possible population groups, as he did in this case. When he did, the witness testified that the frequency of other population groups would be comparably small. Moreover, if defendant believed the perpetrator could have been a member of another population group or groups for which the frequency figures would be more favorable to him, he was entitled to cross-examine the witness or present his own evidence in that regard. The fact that defendants might proceed in either fashion does not make the evidence the prosecution presented irrelevant.

Wilson v. Evans, 2009 WL 3244713, *5-7 (E.D.Cal. 2009). The Court finds this reasoning persuasive and, thus, rejects defendant's second argument. Defendant's counsel is fully capable of cross-examining the government's witnesses on these issues. In fact, defendant's counsel did so, and Mr. Orcutt testified regarding the likely differences that would be found if statistical evidence for Native American's was presented. In addition, Mr. Orcutt testified that he does not know whether statistical data exists for Native Americans, and the government implied that such data may not exist, arguing that the category "Native American" is more "political" than racial or ethnic in nature, noting the ability of each Native American tribe to determine who may be a member of the tribe. The government also argued, similar to the court in Wilson, that it seeks to present statistical data related to Caucasians, African Americans, and Hispanics, because those are the largest three ethnic groups in the United States. Again, the Court finds that the issues

raised by defendant go to credibility, not admissibility, and that defendant's concerns can properly be addressed on cross-examination.⁷

For the foregoing reasons, defendant's Motion in Limine is DENIED.⁸

Objections to Report and Recommendation

In accordance with 28 U.S.C. § 636(b) and Fed. R. Civ. P. 72(b)(2), a party may file specific written objections to this report and recommendation. Such specific written objections must be filed with the Clerk of the District Court for the Northern District of Oklahoma by February 14, 2011.

If specific written objections are timely filed, Fed. R. Civ. P. 72(b)(3) directs the district judge to:

determine *de novo* any part of the magistrate judge's disposition that has been properly objected to. The district judge may accept, reject, or modify the recommended disposition; receive further evidence; or return the matter to the magistrate judge with instructions.

See also 28 U.S.C. § 636(b)(1).

The Tenth Circuit has adopted a "firm waiver rule" which "provides that the failure to make timely objections to the magistrate's findings or recommendations waives appellate review of factual and legal questions." United States v. One Parcel of Real Property, 73 F.3d 1057, 1059 (10th Cir. 1996) (quoting Moore v. United States, 950 F.2d 656, 659 (10th Cir. 1991)). Only a timely specific objection will preserve an issue for *de novo* review by the District Court or for appellate review.

⁷ Notwithstanding the government's argument, at least one federal court was presented with a request by the government to introduce statistical data related to Native Americans. See U.S. v. Coronado-Cervantes, 912 F. Supp. 497, 500 (D.N.M. 1996) ("The government seeks to introduce Agent Lynch's statistical probability calculations generated in this case from the FBI's Caucasian, Black, Hispanic and American Indian population databases.").

⁸ This ruling is preliminary only and may be revisited by the District Court at any time.

SUBMITTED this 31st day of January, 2010.



T. Lane Wilson
United States Magistrate Judge